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GRAIN INSPECTION IN ILLINOIS

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Grain inspection, as understood in this day and generation, has a far more important meaning than that ascribed to it in earlier history, and the grain inspection department of the present has necessarily become a vastly more essential factor in the transaction of business as between the producer, dealer and consumer. Our present system of inspection, however incomplete, is not the inception of the moment, but rather the outgrowth of the wonderful evolution that has taken place in the methods of marketing and handling grain within the last half century. As the trade continues in its progressive strides, so must the work of the inspectors improve to meet the demands and added responsibilities.

Up to a time within the memory of many of us, the harvest was delivered in its virgin state direct from the field to the nearest mill. Machines for cleaning, purifying and preparing grain were almost unknown. As the classifications of the different cereals were then comparatively few, there was little need of especially trained experts to determine the various standards. Later, with the advent of a vast network of transportation facilities, there came about the centralization of storage houses and mills and a consequent broadening of the markets. With this change came the demand for a more general system of inspection.

To-day, with the dawn of an era of intense energy and specialization in trade, while the product of the farm is becoming greatly diversified under scientific treatment and while ways are being devised and machinery manufactured for the purposes of manipulating this product into almost every conceivable condition and appearance, it is useless to contend that the system of inspection so long in vogue has not outlived its usefulness. The departments must follow in the footsteps of progress and adopt advanced methods in determining the varieties, the quality and condition, and in many cases the methods pursued to attain quality and condition, demanded by the miller and the consumer when buying grain for specific purposes.

The "Track" system of grain inspection, the system so long in general use in all inspection departments and so designated from the fact that the work is performed and the grades established at the tracks of the different railroads instead of at a central office, had its origin on the Chicago Board of Trade in the year 1858, and was adopted by the Illinois state grain inspection department when the state assumed the responsibility of grain inspection under legislative enactment in 1871.

Since that time, however, there have been many changes in the methods of handling grain. The inspection yards were removed to points remote from the city. This made the work of inspecting much more laborious and added many new responsibilities not contemplated when the system was first inaugurated. In undertaking to cope with the changing condition of the trade without modifying the system the department in time began to deteriorate and the work of the inspectors became so uneven and unsatisfactory that Chicago inspection finally came into general disrepute and her market was avoided whenever possible.

These conditions prevailed when the present chief inspector assumed charge in 1904. Upon investigation, the criticism in most cases appeared to be well founded, but under the system in use the defects became almost unsurmountable. The thirty odd inspectors distributed among the different railroad yards and at the several elevators, without means of conferring one with another, and without the proper supervision, had necessarily to depend upon their individual judgments, and they were, therefore, to all intents and purposes the heads of thirty separate and distinct departments, each operated in accordance with the judgment of the inspector in charge.

While doing their work they were subjected to the many varying conditions of heat, cold, rain and snow, and the examinations of necessity had to be done hurriedly when the receipts were heavy. After the grades were fixed, samples of the contents of the cars were taken directly from the railroad yards to the consignee or receivers on the board of trade without being reviewed by the chief inspector or any supervising inspector, by men who acted as receivers' agents, and who were in no manner a part of the inspection department force. If the inspector had erred in judgment in fixing the grade of any car of grain, there was no opportunity of

correcting such error until after the receiver of the grain had lodged a complaint, which very frequently he neglected to do. There was no check upon him or upon his work except as a reinspection or an appeal was called for. He did his work carefully or otherwise according to his own ideas of carefulness or the convictions of his conscience or as his convenience dictated and when the arrivals were very heavy it was frequently impossible for him to give that careful attention to each individual car which the importance of the work demanded. In inclement weather cars could also be passed by and inspection postponed from day to day until better conditions prevailed without the knowledge of the department or reference to the financial interests of the shipper or receiver.

The essential and material elements of correct grain inspection are uniformity and accuracy, and under any system which does not permit of a constant personal supervision of the work of all inspectors, these results cannot be obtained. The tendency of the inspector at the track was to follow an absolutely safe course and to be sure that when a car was given a certain grade it was fully entitled to receive it. In "line" cars the tendency was never to give the grain the benefit of a reasonable doubt, to which, in my opinion, it is entitled. At the elevator, on outgoing shipments, the opposite condition prevailed. Here the grain always received the benefit of every doubt, and it was the duty of the high salaried elevator superintendent by scientific mixing to see that the "doubt" usually existed. It was therefore between these in-inspections and out-inspections, the men working under direct opposite pressure, that there was a constant drawing apart, the farmers' produce receiving a rigid inspection when received at the market and a lax inspection from the elevator when the grain was released for shipment.

Recognizing these conditions as prevailing in the Illinois department when I assumed charge, I at once gave the subject serious consideration. The first move was to develop a school of instruction for the inspectors, and by the use of type samples of the different grain and grades, seek to instill into their minds a greater degree of uniformity and accuracy. The inspectors were required to report frequently at the office of the chief inspector, where these type samples, and oftentimes samples of grain that they themselves had previously inspected, were placed before them, and they were required to record their respective decisions as to the different

grades. When errors were made they were shown to the inspector making them and their mistakes in judgment carefully explained. These examinations, from an educational standpoint, proved very beneficial, as the differences of opinion were at these meetings fully discussed and adjusted, and the inspectors were thus enabled to develop more accurate and uniform conclusions.

Improvements were quite noticeable as the result of these reviews; still the inspection as a whole was far from satisfactory. Further investigations were made, visits were paid to the inspection departments of other states, and frequent conferences held with the grain committee of the board of trade. As a result, I became thoroughly convinced that there was but one final solution to the entire problem, and that there must be a careful review made of every car inspected, and no distinction should be made between grain arriving and that being shipped out.

Thus originated the system of "office" inspection that is used in Illinois to-day, a system that preserves annually to the producers of grain large sums of money, and renders to the trade generally a service at once complete and satisfactory. This plan in general provides that samples of every car or boat of grain inspected in Chicago shall be subject to review by the most competent inspectors in the department, and that reinspections or appeals may be allowed to those desiring them with the least possible delay.

"Office" inspection consists in collecting samples of all cars of grain arriving daily on all of the different railroads entering the City of Chicago; bringing these samples to the main office of the inspection department, where are assembled a corps of the most competent inspectors procurable; and there, under most favorable conditions of light, temperature and atmosphere, the samples are taken charge of by the inspectors and the grain carefully graded therefrom. The collectors of the samples are divided into groups of men, the number in each group being adjusted in accordance with the average daily receipts on the respective railroads to which they are assigned. Each group of samplers is under the control and direction of a chief sampler who in most instances had previously been a regular grain inspector. This chief sampler is held responsible for the work of his assistants, and the strictest discipline is enforced. To add to and increase the efficiency of these several groups of samplers there is a supervising sampler who was pre-

viously a regular grain inspector, whose duty it is to travel daily from one road to another as seems necessary, to observe and "keep tab" on the work done by each group and see that every man does his full duty.

The agents of the different railroads deliver each morning to the chief sampler of each group the railroad notices of the cars in the yards ready for sampling on that particular day, and these notices are brought to the main office with the samples. The samples consist of two quart bags filled with grain drawn from different parts of the car and representing its average contents. In case of differently marked conditions in the grain, or if a car shows that it has been "plugged" for the purpose of deception, several samples are drawn to indicate the various differences of quality and condition of the contents. In case of a bulkhead car, each compartment is sampled as if from an entire car. These samples are hurried by the first train into the city and are met at each railroad station by an express wagon operated for the department and delivered at once at the main office.

The position of a "track grain sampler" is in no way an easy or inferior one. It is of the greatest importance and fully as responsible a position as that of the grain inspector who grades the samples upon their arrival at the main office. The sampler's work must necessarily be correct as to the samples of the contents of the cars, as the inspector at the office depends entirely upon the accuracy of the samples placed before him in making the grades. A grain sampler must be in good health and strong physically; able to endure exposure in all kinds of weather. He must also be intelligent, industrious and full of enthusiasm, always recognizing the responsibility resting upon him and willing to endure many hardships in the performance of his important duties.

On the arrival of the samples at the main office they are immediately taken in charge by the inspectors. The bags containing them are placed upon a shelf attached to each inspector's table. They are then emptied one at a time into a tin grain-pan, or receiver, and immediately inspected and graded. In case of what is termed a "line car," that is to say, a car so nearly on the dividing line between any two particular grades, that the inspector hesitates or is in doubt as to the grade to which it is entitled, he calls on the chief grain inspector or the supervising inspector, who is always

present, and their combined judgment determines the grade. Frequently all of the inspectors are called around the table holding some particularly difficult sample and each inspector is required to make a grade for it and give his reasons therefor. In this way a full and free expression of opinion is obtained, and through the interchange of such opinions educational suggestions are developed, and consequently a greater uniformity of opinion results as well as greater accuracy.

Immediately after the grade has been determined and the same noted upon a card, signed by the inspector making the grade, this card is placed in the bag, to which the sample has been returned and passed to a table at which is seated the record writer, who takes the card and enters all of the notations thereon upon a record sheet. These notations consist of the car number, name of the railroad over which the car arrived, the grade given the grain, and the reasons given for so grading the sample, with the name of the inspector who graded it and the sample hook on which it is to be hung.

The sample is then carried to what is called the "splitting department," where a group of men stand at tables especially built for the purpose. These men take the samples and divide them into equal parts. One-half is placed in a paper bag on which is written the car number and the initials of the railroad over which the car arrived, the grade fixed, and the name of the firm to whom the grain is consigned. The railroad notice is placed inside this paper bag along with the sample. To verify the first inspection, the samples are once more carefully reviewed by two inspectors stationed in the splitting department, whose duty it is to closely examine the notations written on the bags to see that they are correct; they also review the contents, and if an error has been made, it is then corrected.

If all these precautions are necessary under the present system to assure a correct grading, what must have been the chaotic conditions under the old system, when there was no check whatever on the inspector's work, working as he did, alone and dependent entirely upon his own unassisted judgment? It is surprising now that grain dealers exercised the patience which they did for so many years with such a system.

After this second inspection, or review, the samples are passed

to an authorized agent, whose duty it is to place them in baskets for delivery to the board of trade. Messengers then hurry them to the exchange floor of the board of trade, where they are placed on the tables of the firms to whom they have been consigned. The other half of the sample is returned to the bag from which it was taken and carried to the sample room and hung upon a revolving sample rack. Each sample being numbered, it is placed upon a hook having the number corresponding to that of the sample, where it can be readily located if necessary. These samples are preserved upon these racks for twenty-four hours; and at 1.30 P. M. of each day the samples for the previous twenty-four hours are emptied.

When reinspection is now asked for, a decision can be obtained within thirty minutes, while formerly it required from two to thirteen days, during which time the burden of risk (frequently very expensive) was entirely on the shipper. The regular inspection yards being located at long distances outside of the city limits, the cars had to be switched to what are called "the inner yards" for reinspection, involving the risk and loss of time just mentioned. These delays were frequently not only the cause of demurrage charges, but also of the grain getting out of condition, making it necessary in such cases to finally fix a lower grade than the one originally made. This would not have occurred if the grain could have been reinspected more quickly. Note the contrast with the present which by its prompt and efficient service absolutely eliminates all such delay and prevents the loss resulting therefrom.

This is a general description of the work of inspecting grain arriving, which is performed much more rapidly than it can be described. It has developed to a much greater degree than ever before known on the Chicago market, that accuracy and uniformity in the inspection of grain so much desired by all intelligent and honest dealers; and has obviated the many complaints that heretofore were received because of the lack of uniformity and correctness.

A satisfactory system of inspecting grain "arriving" at Chicago having been developed, the inspection of that "loaded out" of the elevators was next given attention. It had long been claimed that the inspection *in* and *out* of elevators was lacking in uniformity, it being asserted that the inspection *in* was much more severe than the inspection *out*. To overcome this condition, it was determined

to review, or reinspect, the work of the house inspectors stationed at the different elevators. To accomplish this an order was issued requiring carefully drawn samples to be taken from each car or vessel of the grain inspected *out*. These samples are delivered by special messengers daily at the main office, where they are at once reinspected by a board of inspectors under the personal supervision of the chief. If the work of the inspector at an elevator is not approved by this board of review, the grades given by him are changed to agree with their decision, the house inspector being notified accordingly and a record kept of each car or vessel. In this way the inspector's work is checked up and the inspection department placed in a position where it can intelligently answer any complaints or criticisms that may be made at any future time respecting any particular shipment or parcel of grain so inspected. This does away with the objection, dating back so many years, to the effect that the purchasers of elevator grain received only the very lowest, or "skin" grade. It is believed the department can now assure a just and uniform grading of grain both *in* and *out*.

Since the adoption of the present system the results have surpassed my most sanguine expectations. Complaints from shippers and purchasers have almost entirely ceased. Many errors that under previous methods were unavoidable are now prevented.

As an illustration of the success of office inspection, as perfected to this time, it might be well to instance a single recent day's work of the Chicago department. On Tuesday, February 14, 1911, the total number of cars sampled in the Chicago yards was approximately 1,800, of which number 1,531 were inspected and samples delivered to the Chicago Board of Trade for early trading. Of this large number of cars there were but forty-two reinspections called, of which number fifteen were changed by the supervising inspector. As a result of this day's work, there was but one car carried to the board of appeal.

INSPECTION FORCE

The Grain Samplers

The men assigned to the work of procuring samples of grain from the cars for inspection are usually selected from the ranks of the assistant inspectors or from among those who have spent years

in the service as messengers and helpers and have developed an aptitude for this particular work. The qualifications necessary to become an efficient sampler are an expert knowledge of grain, a familiarity with the methods employed in loading cars, and a faculty for keen observation. The sampler must ascertain if there is any variation in the quality or condition of the grain, and also if there has been an improper loading of the car. He must secure a sample of each kind and quality of grain contained in the car, determine the probable proportion of each, and must also make notations such as "small load," "subject," "car too full for thorough sampling," "car in leaky condition," "heating," that "snow or rain has affected the contents," and many other facts that go to form the records of the department. No man is permitted to attain the position of sampler who is not thoroughly qualified for the position and has not served a long apprenticeship.

The Inspectors

The work of the inspector is to classify the grain according to its quality and condition in order that it may go into store and be mixed only with other grain of like quality and condition, or be sold at a price based upon what has become a recognized comparative standard of value. In so classifying the grain he gives it one or another of the many established grades as his judgment may dictate.

The requirements of each of these grades are fixed by a rule established by the railroad and warehouse commissioners; but as the inspection of grain is not an "exact science," and as the grades necessarily approach each other by imperceptible degrees, and meet upon debatable ground, it will be seen that the written rules serve as a guide rather than as an inflexible standard for the inspector, and that upon his judgment the final and practical application of rule necessarily depends. It is therefore evident that an inspector must not only have that expert knowledge of the grain itself which comes from years of experience, but that he must have such absolute familiarity with the requirements of each grade as to enable him promptly and accurately to give each car its proper grade, and to state clearly, and concisely, the reasons which lead to his decision. An efficient and reliable inspector must have also evenness of

judgment, the faculty of so carrying a grade in his mind that he will give a particular lot of grain the same grade he gave a similar lot a week or a month before, and a tenacity of opinion that cannot be affected by any surrounding influence.

In grading the grain that passes through his hands every conscientious inspector is influenced by the fact that he is, in a certain sense, making an appraisal of another's property, and fixing the price at which it shall be bought and sold. It is not to be assumed that any inspector is infallible, or that he will always adhere to established lines with unwavering accuracy. In fact, there is a well recognized tendency among the best inspectors at times, when not properly supervised or enabled in some other way to compare their work with that of others, to swerve, unconsciously and imperceptibly to themselves, from their established lines.

In the Illinois department the men entrusted with the work of inspecting are all old in the service, and a number of them were connected with the board of trade and engaged in passing upon the quality and condition of grain even before the state department was founded, forty years ago. The others have all worked their way up to their present position from those of messengers and helpers on the tracks and have been carefully schooled in the profession. The average length of service of the supervising inspectors employed in the department is over thirty-four years, of the office inspectors twenty-eight years, of the second assistant inspectors twenty-two years, and of the third assistant inspectors, those of more recent promotion from the ranks of helpers, ten years.

Supervising Inspectors

The supervising inspectors are men chosen from the ranks of inspectors because of their evenness of temperament, their accuracy of judgment and their expert knowledge of grain, and the inspectors who have attained this position in the Illinois department are men who have been in the service for a long period of years. In this way the work is so directed that, although the grain is received from many different parts of the country, and is grown under diverse conditions of soil and climate, the average quality and market value of any particular grade is substantially the same in each of the many public warehouses in which it is stored, and may be, as it

daily is, confidently purchased by Eastern and European dealers with no other knowledge or guarantee of its quality than the certificate of this department.

The necessity and importance of this constant supervision is more apparent when one remembers that the responsibility of the department does not cease with the affixing of the original grade, but that the millions of bushels of grain going into store must also be inspected out, that the buyer as well as the seller must be satisfied, and that there is safety only along the line of exact and inflexible justice to all parties concerned.

The Committee on Appeals

Upon the appeals committee of the state grain department devolves the duty of passing final judgment upon any disputed consignment of grain. After a car or vessel has been inspected and the inspection sustained by the supervising inspectors, the shipper, the consignee or the purchaser of the grain may yet submit the entire matter to the committee of appeals. The duty of this committee is to visit the car or vessel, obtain and examine fresh samples, and the judgment of a majority of its members as to grades is final and not subject to further review. Under the laws of Illinois the committee of appeals is appointed by the board of railroad and warehouse commissioners, and must consist of three competent and discreet persons experienced in the qualities of grain, not connected with the inspection department, and not in any manner engaged in the buying or selling of the grain. The members of the appeals committee, as well as all inspectors, are required to execute bonds in the penal sum of \$5,000 to the department as a protection to the owners of grain against loss from neglect of duty or a careless or wilfully improper inspection.

The Department

The position of the Illinois inspection department in its relation to the public is one of peculiar difficulty and responsibility. It stands as an arbitrator between buyer and seller, between producer and consumer, and practically fixes the value of the immense quantities of grain passing under its supervision. At times it has been subjected to violent pressure in one direction from the receivers

and again in a contrary direction from Eastern and foreign buyers, and to harsh and often unmerited criticism from both.

Notwithstanding the criticism that has been voiced against it, the aim at all times of those in charge has been to secure such fair interpretation and impartial application of existing rules as to do exact justice to all parties interested and at the same time to maintain the present enviable reputation borne by the certificates of the department in the markets of the world. The reputation of Chicago inspection has been of slow and steady growth, has practically changed the business methods of the grain trade wherever American cereals are consumed, and it is not too much to say that the pre-eminence of Chicago as a grain market is due in a great measure to the public confidence in the integrity and accuracy of the work of her inspectors as well as to her favorable location, her unsurpassed facilities or the push and enterprise of her citizens.

*The Influence of Civil Service on the State Grain Inspection
Department of Illinois*

As a result of a law passed by the last legislature of Illinois (No. 47) the Illinois state grain inspection department passed under civil service July 1, 1911. The members of the department, as well as those who are connected with it in any way, recognize that civil service is and will be a great addition to the efficiency of the department. Hereafter a civil service examination of candidates must precede both the filling of vacancies and promotions in the department. These examinations are conducted by a committee appointed by the civil service commission. This fact lends an incentive to all employees to become more efficient, which, in turn, adds strength to the department. To conduct the proper inspection of grain an inspector must be both intellectual and well trained; the latter requisite calls for years of experience in the department. To secure and hold such men, permanency of position must be assured them. The laws of civil service make this possible.

The official examiner is appointed by the civil service commission and the attention which he gives the department will be a great factor in promoting zeal for betterment.

The chief inspector is no longer hampered by political pressure. Those who wish positions in the department will apply to the civil service commission. Employees of the department are not subject

to the whims of the politicians. Their only requirement is to do their work well and to the best of their ability. One of the requirements of a civil service employee is that he should not be factionally connected with politics. The benefit of such a requirement is that his interest, time and attention are not taken from his work. For these reasons and many others it is expected, and in part the expectation is realized, that civil service will render more satisfaction and be more efficient for all concerned.